A

Find the midpoint and length of each line segment.

**Distance and Midpoint II**  Name:



9. *M* is the midpoint of a line segment AB. The coordinates of *A* are (-2,3) and the coordinates of *M* are (1,0).  Find the coordinates of *B*.

10. *M* is the midpoint of a line segment AB. The coordinates of *B* are (2,3) and the coordinates of *M* are (4.5, 6).  Find the coordinates of *A*.

11. One endpoint of a line segment is (-9, 7) and the midpoint of that segment is (10, -3). Find the other endpoint.

12. Find the distance between:

a) (-2, -5) and (6, 10) b) (-2, -5) and (-6, -10)

13.

Here’s the town of Metropolis. Oooo, exciting!

The grid lines = roads, but you’re allowed to cut diagonally across the city as you walk.



a) Calculate the distance from:

i. The post office to the school ii. The Quick-E-Freeze to the Dairy Q

ii. The Quick-E-Freeze to the Hospital

b) Which two buildings in Metropolis are the farthest apart, measured by walking distance? How far apart are they?

c) You’re at school and want a cran-root-beer Squidgy, sold at both Dairy Q and Quick-E-Freeze. Measured by walking distance, which one is closer? (Be sure to show how…)

d) Say you’re DRIVING now from school, which means you can’t cut across diagonally. You STILL want that cran-root-beer Squidgy, though. Which involves the shorter trip from school—the Dairy Q or the Quick-E-Freeze? Show your thinking…

e) Suppose you’re EXACTLY halfway between school and the post office. How far is the walking distance from that point to the Dairy Q?

14. This awesome picture was formed by drawing a square, and then connecting the midpoints of each side of the larger square to form a new 4-sided shape, and so on and so on.



**YOU MUST DO THIS ON THE BACK OF THIS SHEET OR ON A SEPARATE PIECE OF PAPER—YOU WILL NEED THE SPACE! ☺ ☺**

a) Is the second-biggest 4-sided shape a square? (Meaning: are its sides perpendicular to each other AND are they each the same length?)

b) Look at the third-biggest 4-sided shape. Are each of its sides parallel to the sides of the original square?